MEDIA CODING FOR LOSS RECOVERY WITH REMOTELY PREDICTED DATA UNITS

ABSTRACT OF THE DISCLOSURE

An improved loss recovery method for coding streaming media classifies each data unit in the media stream as an independent data unit (I unit), a remotely predicted unit (R unit) or a predicted data unit (P unit). Each of these units is organized into independent segments having an I unit, multiple P units and R units interspersed among the P units. The beginning of each segment is the start of a random access point, while each R unit provides a loss recovery point that can be placed independently of the I unit. This approach separates the random access point from the loss recovery points provided by the R units, and makes the stream more impervious to data losses without substantially impacting coding efficiency. The most important data units are transmitted with the most reliability to ensure that the majority of the data received by the client is usable. The I units are the least sensitive to transmission losses because they are coded using only their own data. While they provide the best coding efficiency, the P units are the most sensitive to data loss because the loss of one P unit renders useless all of the P units that depend on it. The remotely predicted units are dependent on the I unit, or in an alternative implementation, on another R unit.